

<b>Semester: June – Sep 24</b>		
<b>Maximum Marks: 50 Examination: ETE Exam Date: 11/11/2024 Duration: 2 Hours</b>		
<b>Programme code: 14</b>	<b>Class: FY</b>	<b>Semester/Trimester: I</b>
<b>Programme: MBA (Sports Management)</b>	<b>Name of the department/Section/Center: Business Analytics</b>	
<b>College: K. J. Somaiya Institute of Management</b>	<b>Name of the Course: Statistics in Sport Management</b>	
<b>Course Code: 317P14C108</b>		
<b>Instructions:</b> <b>1. All questions are compulsory.</b> <b>2. Make suitable assumptions if required and state them.</b> <b>3. Write all relevant answers and interpretations in your Excel sheet, with sufficient details in an easily readable manner to enable a fast evaluation of your answers.</b> <b>4. Keep saving the file every ten minutes or so.</b> <b>5. Make only 1 Excel file with different worksheets pertaining to each question.</b> <b>6. Name the file with your division no., name and roll number.</b>		

Question No.		Max. Marks
1	<p>You have been provided a dataset that lists the performance of 3 separate spinners.</p> <p>Below are the profiles for each spinner:</p> <p>Spinner 1 – Left arm leg spinner. Spins a lot. Requires a friendly pitch to perform better. Can bat in One-Day Matches but not good in Test Matches</p> <p>Spinner 2 – Right arm leg break. Does not spin a lot. Performance is consistent irrespective of pitches. Can bat in Test Matches and not that good in One-Day Matches</p> <p>Spinner 3 – Right arm off spinner. Bowls a little flat. Can bat well in Test Matches and One Day Matches.</p> <p>All the 3 spinners are generally fit and they don't tend to get injured often.</p> <p>Use this dataset for answering various questions.</p> <p>The year is 2002. You are one of the selectors for upcoming series. You have been assigned the task to select spinners for these series. However, there is a constraint of taking 2 spinners with the team since all the other slots have been filled and there is no option of accommodating the 3<sup>rd</sup> spinner. Which of the 2 spinners you will consider for the below series (You are not required to have the same spinners in both the series):</p> <p>1. March-June 2002 in Australia – 1 Test Match and 2 One Day Matches in the city of Sydney which is known to assist spinners. 1 Test Match and 1 One Day Match in the city of Perth which is known to provide a high bounce. 1 Test Match and 1 One Day Match in the city of Melbourne which is known to be unfriendly to spinners.</p> <p>In 2002, most of the Australian batters were known to play well against all kinds of spinners irrespective of the pitches. [10 marks]</p> <p>2. August-October 2002 in Sri Lanka – 1 Test Match and 1 One Day Match in the city of Kandy which is widely known as a “dust bowl” – pitch that helps spinners. 1 Test Match and 2 One Day Matches in the city of Ceylon where the pitch is a good strip for batting. [10 marks]</p> <p>To support the answers above, you are required to calculate:</p> <ol style="list-style-type: none"> <li>Measures of Central Tendency: Mean, Median and Mode</li> <li>Measures of Variability: Standard Deviation, Variance, Range, Coefficient of Variation</li> <li>Measures of Shape: Skewness and Kurtosis</li> <li>Measures of Relative Standing: Percentiles, Quartiles</li> </ol> <p>Please be clear in your interpretation in using the above statistics and commenting on the 2 questions listed above.</p>	20

2	Describe Skewness and what are the 3 different types within Skewness and their properties.	5																										
3	<p>A statistics professor formed the theory that students who handed in quiz and exams early outperformed students who handed in their papers later. To develop data to decide whether her theory is valid, she recorded the amount of time (in minutes) taken by students to submit their midterm tests (time limit 90 minutes) and subsequent mark for a sample of 12 students.</p> <table border="1" data-bbox="306 430 572 922"> <thead> <tr> <th>Time</th> <th>Mark</th> </tr> </thead> <tbody> <tr><td>90</td><td>34</td></tr> <tr><td>73</td><td>33</td></tr> <tr><td>86</td><td>29</td></tr> <tr><td>85</td><td>47</td></tr> <tr><td>80</td><td>38</td></tr> <tr><td>87</td><td>46</td></tr> <tr><td>90</td><td>31</td></tr> <tr><td>78</td><td>41</td></tr> <tr><td>84</td><td>38</td></tr> <tr><td>71</td><td>42</td></tr> <tr><td>72</td><td>43</td></tr> <tr><td>88</td><td>37</td></tr> </tbody> </table> <p>Draw a scatter diagram and describe what it tells you about the professor's theory.</p>	Time	Mark	90	34	73	33	86	29	85	47	80	38	87	46	90	31	78	41	84	38	71	42	72	43	88	37	10
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4	<p>Differentiate between Population and Sample. Please include an example to elaborate on the differentiation. In your response, include notations (Population and Sample) for:</p> <ol style="list-style-type: none"> <li>1. Mean</li> <li>2. Count</li> </ol>	5																										
5	Please list different types of variables within Qualitative (Categorical) and Quantitative (Numerical). For each of the types of variables, highlight Sports-related examples.	10																										